

What is the Status of EPA's Cleanups?

In November 2001, EPA began its cleanup at the Welsbach/GGM Site. To date, EPA has removed and disposed of over 120,000 cubic yards of contaminated soil and building materials from numerous locations in Gloucester City and Camden. EPA's cleanup activities to date include:

- Demolition of the GGM building in Camden;
- Removal of radiologically-contaminated soils and building materials from over 80 residential properties in Gloucester City and Camden; and
- Removal of radiologically-contaminated soils along the 800 Block of Essex Street and the Gloucester City Swim Club, and along the 500 Block Area of Division Street in Gloucester City;

Currently, EPA is continuing its cleanup work at many residential properties, including the properties along Klemm Avenue and Highland Boulevard in Gloucester City. EPA anticipates completing the cleanup at Klemm Avenue and Highland Boulevard in February/March 2008.

In early 2008, EPA plans to start cleanup activities at Temple Avenue, adjacent to Newton Creek in Gloucester City. EPA expects the Temple Avenue work to take about 18 months to complete. EPA's cleanup activities at Temple Avenue will include:

- Preparing the site for cleanup by removing some trees and a garage, and setting up the construction support staging area; etc.
- Excavating about 15,000 cubic yards of radiologically-contaminated soil and disposing of this material at an approved off-site facility; and
- Restoring and replanting the excavated areas.

Additional areas EPA plans to cleanup in the future include the Gloucester City Ballfields and Land Preserve, the former Welsbach facility along King Street in Gloucester City, and the subsurface soils around the former GGM facility in Camden.



EPA's Cleanup at Highland and Klemm



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Where Can I Get Site-Related Documents?

EPA Region 2 Office, 290 Broadway, 18th Floor,
New York, NY 10007-1866

Gloucester City Public Library, Monmouth and
Hudson Streets, Gloucester City, NJ 08030

City of Camden Main Library, 418 Federal Street,
Camden, NJ 08103

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUPERFUND UPDATE
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WELSBACH & GENERAL GAS MANTLE SUPERFUND SITE

THE SHIELD of QUALITY is the Welsbach mark. It is always on the label of the box containing the genuine Welsbach Mantle and genuine Welsbach Light.

General Gas Mantle Co.
Jefferson Near Fourth
CAMDEN, NEW JERSEY circa 1926

Welsbach Facility circa 1900
Gloucester City, New Jersey

Carl Auer von Welsbach

History of Welsbach and GGM Facilities

Between the 1890s and 1940s, the Welsbach Company (Welsbach) manufactured gas mantles at its facility in Gloucester City, New Jersey. The gas mantles contained the radioactive element thorium. Thorium was used because it makes the mantles glow brighter when heated. Just after the turn of the 20th century, Welsbach was the largest producer of gas mantles and lamps in the United States, making up to 250,000 mantles per day. Eventually the electric light replaced gas lighting and Welsbach went out of business in 1940. A second gas mantle manufacturing company, General Gas Mantle (GGM), located in Camden, New Jersey, was a small competitor to the Welsbach Company. GGM operated from 1912 to 1941.

Waste materials associated with the making of the gas mantles contain the radioactive elements thorium and radium. These elements give off gamma radiation and radon gas as part of the process of radioactive decay. It is believed that these wastes were used as fill material in some areas in Camden and Gloucester City.

How Did Welsbach/GGM Become a Superfund Site?

In the early 1980s, the U.S. Environmental Protection Agency (EPA), in conjunction with the New Jersey Department of Environmental Protection (NJDEP), conducted a radiological flyover survey of the areas surrounding the former Welsbach and GGM facilities in Gloucester City and Camden in the early 1990s. Based on the flyover survey, NJDEP investigated more than 1,000 properties surrounding the two former gas mantle facilities.

In 1996, the site was placed on EPA's Superfund Site List, a list of the nation's most hazardous waste sites. In 1997, EPA began a remedial investigation and feasibility study (RI/FS) to determine the extent of radiological contamination in the Gloucester City and Camden areas and to evaluate the cleanup alternatives. In 1999 based on the RI/FS, EPA selected a remedy for the site in a Record of Decision (ROD). The selected remedy includes excavation and off-site disposal of radiologically-contaminated soil and building materials and backfilling the areas with clean soil.

Where is the Welsbach/GGM Superfund Site Located?

The Welsbach/GGM Site contains the former Welsbach facility, which is located just south of the Walt Whitman Bridge in Gloucester City, and the former GGM facility, which is located in the Waterfront South section of Camden. The Site also includes contaminated properties located in six study areas; four in Gloucester City and two in Camden. The study areas are shown on the map to the right.

What is EPA Testing and What do the Test Results Mean?

To date, EPA has investigated over 900 properties out of the 1,000 properties it plans on studying in the Gloucester City and Camden areas. EPA conducts the following tests at these properties at no cost to the property owner.

Surface Radiation Scan – The first test EPA conducts on a property is a surface radiation scan to identify potential areas of concern. These measurements are taken by scanning a surface (for example soil, or a basement floor) with an instrument similar to a Geiger counter. The instrument measures the amount of gamma radiation being released from the surface. All matter gives off a certain amount of radiation and local background radiation levels were determined for the site. If readings on a property are above background levels, EPA will collect soil and/or building material samples to determine if site-related contamination is present.

Radon Testing – Radioactive materials such as uranium, radium, and thorium give off radon gas as part of their decay process. While radium and thorium have been found in materials associated with the Welsbach/GGM Site, radium and thorium are also found naturally in nearly all rocks and soils. In addition to the surface scans, EPA also conducts a radon test to determine if Welsbach/GGM related waste could be on a property. Radon sampling is conducted by placing a radon measuring device in the lowest habitable level of a house, usually the basement. These devices are left in the house for about 30 days. EPA's guideline for radon is less than 4 pico-Curies per liter of air (pCi/L).



Sampling – Soil and building material samples are collected on properties with elevated surface scans to measure the levels of radium and thorium in the soil. These samples are analyzed by a laboratory. EPA cleanup levels for thorium and/or radium at the Welsbach/GGM Site are 5 pico-Curies per gram (pCi/g) above background. The average background concentrations of thorium and radium in soil are approximately 1 pCi/g each. A pico-Curie is a unit used to measure the amount of radiation given off by the soil as the radioactive material in it decays. If sample results are above 5 pCi/g, EPA may need to perform additional tests to determine the extent of contamination before we can schedule the cleanup.

